

2010

Ambient Fish Community Structure



Connecticut Department of Energy and
Environmental Protection
Bureau of Water Protection and Land Reuse
79 Elm Street, Hartford, CT 06106

Work Summary Document

Fish Community Structure

-2010-

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Synopsis:

Connecticut Department of Energy and Environmental Protection (DEEP) year 2010 fish community focused on completion year 5 of 5 of the rotating basin plan 2006-2010 by collecting fish community data for targeted sites in the lower Thames Basin and at the final 20/100 probabilistic sites. In addition the data collection for the large river gear comparison project was completed for sites scheduled to be sampled in 2009 but were postponed due to high flow conditions throughout the 2009 index period.

During the 2010 fish community index period (June-September) **40** fish species were identified and enumerated (Table 1A & 1B) from **137 samples at 133 locations** (Appendix A). Projects supported during this period include the Rotating Basin Strategy 2006-2010, probabilistic monitoring 2006-2010, large river methodology comparison, periphyton community analysis, coldwater temperature regime determination, United States Geologic Survey (USGS) chloride study, miscellaneous samples and Total Maximum Daily Load program (TMDL) (Figure 1).

The 137 samples were collected using a total of **43** crew days. These days were distributed across the following; **16 WPLR days and 27 inland fisheries days (8 western district, 11 eastern district, and 4 multi-crew).**

Interesting species findings included the occurrence of banded sunfish, slimy sculpin, burbot, central mudminnow and swamp darter.



Fifty percent of sample locations (74/133) had wild brook trout present.

Stream flow was lower than normal for much of the index period and many stream flows approached and or achieved record lows during September 2010.

Tissue samples from both fish and crayfish were collected at 9 and 12 probabilistic site locations respectively and will be processed and submitted for mercury contaminant analysis.

A discrete grab sample was collected concurrent with electrofishing, frozen, and then submitted to the laboratory at UConn Center for Environmental Sciences and Engineering (CESE). Parameters included general chemistry, nitrogen series, phosphorous series, and key anions & cations.

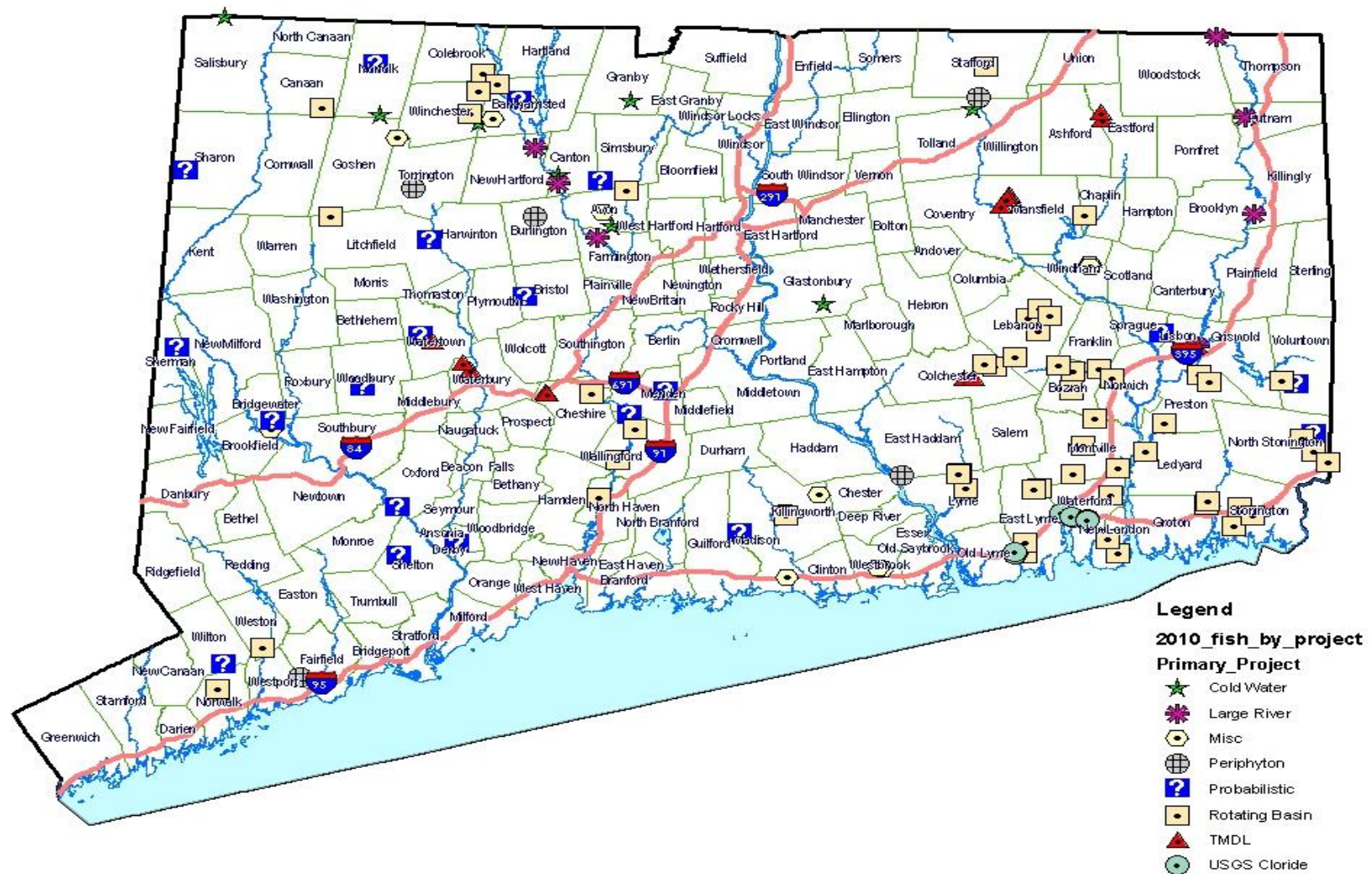


Figure 1. A map of the location of the 133 locations where 137 fish community samples were collected during the 2010 index period in support of various projects.

Table 1A. Fish species and sample occurrence data for the 2010 index period. Fish species are sorted descending by percentage of sites observed. Each are provided a rank from 1 = most commonly found to 39 = only a single sample occurrence.

Common name	Species code	Percent of sites (out of 133)	Occurrence rank
Blacknose dace	BL	74.4	1
White sucker	WS	62.4	2
American eel	AE	50.4	3
Brook trout, wild	WBK	50.4	3
Tesselated darter	TD	48.1	5
Longnose dace	LD	35.3	6
Fallfish	FF	30.1	7
Largemouth Bass	LM	30.1	7
Brown trout, naturalized	WBN	26.3	9
Common shiner	CS	23.3	10
Bluegill sunfish	BG	21.8	11
Brown trout, stocked	BN	18.8	12
Pumpkinseed	PS	18.8	12
Chain pickerel	CP	18.0	14
Redbreast sunfish	RS	17.3	15
Creek chub	CR	16.5	16
Atlantic salmon, fry stocked	SA	11.3	17
Redfin pickerel	RP	10.5	18
Brown bullhead	BB	9.8	19
Slimy sculpin	SC	9.8	19
Golden shiner	GS	9.0	21
Smallmouth bass	SM	9.0	21
Yellow perch	YP	9.0	21
Green sunfish	GR	7.5	24
Rainbow trout, Stocked	RW	7.5	24
Sea lamprey	SL	5.3	26
Brook trout, stocked	BK	4.5	27
Spottail shiner	SS	3.8	28
Yellow bullhead	YB	3.8	28
Unknown minnow	UCY	3.0	30
Banded Sunfish	BS	2.3	31
Cutlips minnow	CM	2.3	31
Fathead minnow	FM	2.3	31
No Fish Present	ZZZ	2.3	31
Rock Bass	RB	2.3	31
Banded killifish	KI	1.5	36
Brown trout, Fry Stocked	FSWBN	1.5	36
Creek chubsucker	CH	1.5	36
Black Crappie	BC	0.8	39
Burbot	LL	0.8	39
Central mudminnow	MM	0.8	39
Hogchoker	HO	0.8	39

Mummichog	MU	0.8	39
Swamp darter	SD	0.8	39
Tiger Trout	TT	0.8	39

Table 1B. Fish species and sample occurrence data for the 2010 index period. Fish are sorted alphabetically by common name. Each are provided a rank from 1 = most commonly found to 39 = only a single sample occurrence.

common name	species code	percent of sites (N=133)	rank
American eel	AE	50.4	3
Atlantic salmon, fry stocked	SA	11.3	17
Banded killifish	KI	1.5	36
Banded Sunfish	BS	2.3	31
Black Crappie	BC	0.8	39
Blacknose dace	BL	74.4	1
Bluegill sunfish	BG	21.8	11
Brook trout, stocked	BK	4.5	27
Brook trout, wild	WBK	50.4	3
Brown bullhead	BB	9.8	19
Brown trout, Fry Stocked	FSWBN	1.5	36
Brown trout, naturalized	WBN	26.3	9
Brown trout, stocked	BN	18.8	12
Burbot	LL	0.8	39
Central mudminnow	MM	0.8	39
Chain pickerel	CP	18.0	14
Common shiner	CS	23.3	10
Creek chub	CR	16.5	16
Creek chubsucker	CH	1.5	36
Cutlips minnow	CM	2.3	31
Fallfish	FF	30.1	7
Fathead minnow	FM	2.3	31
Golden shiner	GS	9.0	21
Green sunfish	GR	7.5	24
Hogchoker	HO	0.8	39
Largemouth Bass	LM	30.1	7
Longnose dace	LD	35.3	6
Mummichog	MU	0.8	39
No Fish Present	ZZZ	2.3	31
Pumpkinseed	PS	18.8	12
Rainbow trout, Stocked	RW	7.5	24
Redbreast sunfish	RS	17.3	15
Redfin pickerel	RP	10.5	18
Rock Bass	RB	2.3	31
Sea lamprey	SL	5.3	26
Slimy sculpin	SC	9.8	19
Smallmouth bass	SM	9.0	21

Spottail shiner	SS	3.8	28
Swamp darter	SD	0.8	39
Tesselated darter	TD	48.1	5
Tiger Trout	TT	0.8	39
Unknown minnow	UCY	3.0	30
White sucker	WS	62.4	2
Yellow bullhead	YB	3.8	28
Yellow perch	YP	9.0	21

Details by project:

Rotating basin and probabilistic monitoring 2006-2010 (65 locations). The majority of effort focused on data to support these two projects. The intent of data collection is to provide a second biological community to integrate into aquatic life use support assessments. Site locations were consistent with the annual work plan and the Comprehensive Ambient Water Quality Monitoring Strategy and an attempt was made to pair with macroinvertebrate site locations where possible. The percent sample occurrence for each project is presented in Table 2. Only one species the central mudminnow, was found exclusively at probabilistic site while 17 species were found at targeted site(s) but not at a probabilistic site(s).

Table 2. Percent of samples each fish species was present at targeted sites and probabilistic sites during the 2010 index period. Fish species are sorted alphabetically by common name.

common name	species code	% of targeted sites (N=113)	% of probabilistic sites (N=20)
American eel	AE	55	30
Atlantic salmon, fry stocked	SA	12	5
Banded killifish	KI	1	5
Banded Sunfish	BS	3	0
Black Crappie	BC	1	0
Blacknose dace	BL	71	95
Bluegill sunfish	BG	20	30
Brook trout, stocked	BK	4	10
Brook trout, wild	WBK	49	60
Brown bullhead	BB	11	5
Brown trout, Fry Stocked	FSWBN	2	0
Brown trout, naturalized	WBN	26	30
Brown trout, stocked	BN	20	10
Central mudminnow	MM	0	5
Burbot	LL	1	0
Chain pickerel	CP	20	5
Common shiner	CS	27	0

Creek chub	CR	12	40
Creek chubsucker	CH	2	0
Cutlips minnow	CM	2	5
Fallfish	FF	34	10
Fathead minnow	FM	3	0
Golden shiner	GS	11	0
Green sunfish	GR	8	5
Hogchoker	HO	1	0
Largemouth Bass	LM	33	15
Longnose dace	LD	34	45
Mummichog	MU	1	0
No Fish Present	ZZZ	3	0
Pumpkinseed	PS	20	10
Rainbow trout, Stocked	RW	6	15
Redbreast sunfish	RS	19	10
Redfin pickerel	RP	10	15
Rock Bass	RB	3	0
Sea lamprey	SL	6	0
Slimy sculpin	SC	11	5
Smallmouth bass	SM	9	10
Spottail shiner	SS	4	5
Swamp darter	SD	1	0
Tesselated darter	TD	50	35
Tiger Trout	TT	1	0
Unknown minnow	UCY	4	0
White sucker	WS	60	75
Yellow bullhead	YB	4	0
Yellow perch	YP	9	10

Tissue Contaminant Monitoring: At each of the 20 probabilistic sample locations the intent was to collect 5 white suckers, 5 resident trout, and 15 edible-sized crayfish. Fish and crayfish samples were processed by DEEP staff and submitted to UConn CESE for mercury analysis (Table 3). A separate report specific to this project is in preparation.



Table 3: Site locations with suitable quantity of specimens for tissue contaminant work. "X" indicates specimens were reserved for tissue analysis.

Stream name- station identifier	Trout	Sucker	Crayfish
Dowd Hollow Bk.-2689	X		
Norfolk Bk.-6126			X
Pequabuck R.-2660	X	X	X
Beebe Bk.-6125			X
Naromiyocknowhusunkatankshunk Bk. (FKA Morrissey Bk.)-2671	X	X	X
Wewaka Bk.-6129			X
Norwalk R.-2687	X	X	X
Eightmile R.-1947	X		
Pomperaug R.-278	X	X	X
Spruce Bk.-972			X
Denison Bk.-5168			X
Green Fall R.-2634			X
Old Stone Mill Bk.-5492	X		
Willow Bk.-2666	X	X	X
Means Bk.-1012		X	X
Sites without sufficient specimens for a tissue sample			
Beaver Bk.-2656, Beaver Bk.-2678, Nod Bk.-2682, Quinnipiac R.-6128, Steele Bk.-2407			



Large river gear comparison (6 locations). This is year 3 of an initially planned 2-year project to investigate fish community data collected using 2 different sampling methodologies. Data collection was incomplete during 2009 due to the abnormally high flows throughout the summer, especially in the large rivers, which forced postponement of the data collection for year 2 until summer 2010.

The samples collected using the traditional multiple crew method was paired with samples collected from the same location using a single back-pack along both stream margins. The set of samples using the 2 methods were collected at least 3 weeks and up to 8 weeks apart from each other so to allow re-distribution of fish within the reach.

This gear comparison project is evaluating the assessment of fish community from both collection methods. A consistent assessment would allow greater flexibility for data collection by WPLR by not having to schedule resource intensive multi-crew sampling effort. A separate report specific to this project is in preparation.

Periphyton community structure (11 locations): The focus of this project is to strengthen DEEP's current efforts to develop effects based nutrient criteria through the collection of chemical and biological data across the range of enrichment conditions and varying nutrient loadings in Connecticut's freshwater rivers and streams. Data collection of water chemistry, benthic algae, benthic macroinvertebrates, and fish communities will help to establish differences in aquatic life response due to changes in enrichment conditions. It will also provide insight into the effects of excess nutrients through anthropogenic input on aquatic life communities.



Data collected will be used to establish a better understanding of aquatic life response to varying enrichment conditions. This understanding will help reinforce achievement of aquatic life use goals through DEEP's current efforts to develop nutrient criteria and will assist in guiding any necessary refinements to better ensure that aquatic life uses are fully attained. Funding for this project was received through an U.S. Environmental Protection Agency 104(b) (3) grant.

Cold water temperature regimes (10 locations): With the revision of DEEP water quality temperature standard during 2010 it was determined a gap in understanding fish community and water temperature regimes existed, especially for cold water streams. As a result, WPLR in cooperation with inland fisheries set Onset Water Temp Pro temperature probes out in 11 sites known to have significant population of slimy sculpin, a coldwater stenotherm. The intent was to begin to build a long-term data set of water temperature in cold water habitat. A separate report will be produced specific to this project and is forthcoming.



USGS Chloride (8 locations): USGS is engaged in a 3-yr monitoring program to determine chloride concentrations and loads from streams associated with I-95 and land use, and to understand the chloride dynamics during storms and base-flow conditions. The purpose is to provide water-quality data and interpretation to be used in the establishment of baseline water-quality conditions of the I-95 expansion in southeastern Connecticut for the development of the project Environmental Impact Statement. The analysis will primarily focus on water quality related to road deicing practices but also

include macroinvertebrate and fish communities (<http://ct.water.usgs.gov/projects/fedhighway.html>).

Miscellaneous sites (16 locations): Data collected at these locations support work like, permit review and compliance, follow-up to inconclusive aquatic life use assessments, augmenting established stations, request from the public, education and outreach, and inland fisheries habitat enhancement projects.

TMDL (8 locations): Four sites were sampled on Steele Bk., 2 above and 2 below, Heminway Pond (Watertown) to continue gathering pre-dam removal fish community data. These data will also support a second TMDL for copper contamination in the lower portion of the watershed. Secondly, data from these sites is used by the Inland Fisheries Division to generate survival estimates for stocked brown trout fry.

As in several previous years, 4 sites were also sampled on Eagleville Brook in Mansfield in support of the impervious surface TMDL.

DEEP Chloride (6 locations): DEEP has been conducting a study to evaluate the potential effect of chloride on aquatic life in streams. This project will strengthen the Stressor Identification Procedures to help determine the most probable cause(s) of aquatic life degradation in streams in Connecticut. Study results could increase capacity and pace for TMDL development should chloride be identified as a primary stressor because this study will provide the scientific basis for chloride as a stressor to aquatic life in Connecticut. Communicating project results with other New England States will be a project priority.

Road salt application rates have increased dramatically since the 1950's (Mattson and Godfrey 1994¹). The increased usage of road salt can lead to increased chloride levels in groundwater and surface water bodies and potentially impact aquatic life. Chloride has been found to be an important stressor in other states. For example, TMDLs for chloride have been developed in New Hampshire and Illinois.

Data collection will focus on in situ conductivity measurements and direct grab chloride values. A correlation between conductivity and chloride values will be established and used to calculate chloride values based on conductivity data from the data loggers. Macroinvertebrate and fish community data will also be collected at each data logger location and a comparison of aquatic communities with chloride values will be conducted for each site.

¹ Mattson, M.D. and P.J. Godfrey.1994. Environmental Management Vol. 18, No. 5, pp. 767-773

Fish community data and assessment of aquatic life use support:

Connecticut's Multi-Metric Fish Community Indices: Historical fish community assessment DEEP has been a combination of Best Professional Judgment and the application of 2 fish community Index of Biological Integrity from Vermont Department of Environmental Conservation. Just prior to the 2009 sampling season, 2 multi-metric fish community indices specific to Connecticut's fish fauna and landscape were finalized and published in Ecological Indicators². These indices should provide a valuable fish community assessment tool to augment traditional macroinvertebrate data for a more comprehensive assessment of Federal Clean Water Act "Aquatic Life Use Support" assessments. Work remains to determine appropriate implementation strategy. The cold water MMI focuses on small coldwater systems (those with watershed areas < 15 km²) while the mixed water MMI focuses on medium to large cool water systems (those with watershed areas >15km²). There may be some overlap at those sites with watershed areas between 5 and 40 km² (Table 4). *The scores provided in Table 4 are for informational purposes only. Interpretation and application of the scores in relation to water quality standards is in progress and have not been finalized.*

Cold water MMI: Scores for the cold water MMI ranged from a high of 70.9 points at Green Fall River, upstream confluence with Wyassup Brook, North Stonington (station identifier 606 WPLR sample id 20928) to a low of 8.1 at Spring Lot Brook, behind Westbrook High School, Westbrook (station identifier 5623 WPLR sample id 21477). Median point value was 46.2 and the average 43.6.

Mixed water MMI: scores for the mixed water MMI ranged from a high of 79.2 at Stonehouse Brook, Chaplin (station identifier 2331 WPLR sample id 21313) to a low of 14.3 at 3 locations. The median point value was 53.4 and the average 50.0.

Fish Community Biological Condition Gradient ³work: Funding supplied to Tetra-Tech via US EPA Region 1 enabled initiation of a project to develop a fuzzy set model calibrated to Connecticut which would predict the Biological Condition Gradient (BCG) tier assignment based on the fish community present. To accomplish this task a regional meeting was held at DEEP on 11/8 and 11/9 2010.

The objectives of the fish BCG project are:

1. to develop the BCG for Connecticut, using fish community data (one or more may be necessary due to natural fish distribution patterns); and
2. To integrate with the existing BCG calibrated for macroinvertebrate communities of high gradient streams.

² Kanno, Y., J.C. Vokoun, and M. Beauchene. 2010. Development of dual fish multi-metric indices of biological condition for streams with characteristic thermal gradients and low species richness. Ecological Indicators 10:565-571.

³ Davies, Susan P., and Susan K. Jackson. 2006. The Biological Condition Gradient: A Descriptive Model For Interpreting Change in Aquatic Ecosystems. Ecological Applications 16:1251–1266.

The BCG provides a powerful approach for an operational monitoring and assessment program, for communicating resource condition to the public and for management decisions to protect or remediate water resources. The BCG and the calibrated decision system allow practical and operational implementation of multiple aquatic life uses in a state's water quality criteria and standards. Adoption of the BCG as an assessment tool in the context of multiple Aquatic Life Uses (Tiered Uses) yields the technical tools for protecting the state's highest quality waters, as well as developing realistic restoration goals for impaired waters.

Table 4. Multi-metric scores for each fish community sample collected during 2010. ***The scores provided in Table 4 are for informational purposes only. Interpretation and application of the scores in relation to water quality standards is in progress and have not been finalized.*** Scores with “*” contained fewer than 20 individuals in the sample reach and may not be valid.

Stream name	basin	Town	landmark	YLat	XLong	Station id	WPLR Sample ID	Trip date	Cold water MMI	Mixed water MMI	area upstream KM2
Bride Bk.	2206	East Lyme	Route 95 crossing	41.3360	-72.2419	670	21557	07/29/10	55.2		0.9
Denison Bk.	3603	Voluntown	US of Fish rd which intersects with 49 across from Hodge rd	41.5486	-71.8422	5168	20930	06/30/10	60.7		2.0
Ballymahack Bk.	3801	Windham	US of old diversion dam at manfrede property	41.7125	-72.1426	5043	21311	07/20/10	55.6		2.3
Norfolk Bk.	6100-03	Norfolk	Yale School Music DS Mountain Road	41.9873	-73.2016	6126	20440	06/10/10	56.8		3.5
Heft Bk.	5103-01-1-L1	Killingworth	Parker Hill Road	41.4022	-72.5440	5934	20366	06/04/10	50.4		3.5
<i>Eagleville Bk.</i>	<i>3100-19</i>	<i>Mansfield</i>	<i>#43 Hunting Lodge Road (private driveway)</i>	<i>41.8067</i>	<i>-72.2646</i>	<i>1225</i>	<i>20251*</i>	<i>06/01/10</i>	<i>34.2</i>		<i>3.7</i>
<i>Eagleville Bk.</i>	<i>3100-19</i>	<i>Mansfield</i>	<i>Separatist Road</i>	<i>41.8040</i>	<i>-72.2660</i>	<i>1226</i>	<i>20252*</i>	<i>06/01/10</i>	<i>34.2</i>		<i>3.7</i>
<i>Eagleville Bk.</i>	<i>3100-19</i>	<i>Mansfield</i>	<i>NNT to Eagleville Bk. Adj. To N. Eagleville Road</i>	<i>41.7938</i>	<i>-72.2752</i>	<i>1228</i>	<i>20254*</i>	<i>06/01/10</i>	<i>58.6</i>		<i>3.7</i>
Mallory Bk.	4305	Barkhamsted	gas pipeline	41.9063	-73.0474	717	20318	06/03/10	41.0		3.7
Steele Bk.	6912	Watertown	West Road	41.6175	-73.1310	2407	22344	09/10/10	34.5		4.1
Kahn Bk.	3900	Bozrah	Schwartz Road	41.5681	-72.1702	138	21182	07/01/10	54.8		4.4
Eagleville Bk.	3100-19	Mansfield	NNT to Eagleville Bk. Adj. To N. Eagleville Road	41.7932	-72.2756	1230	20253	06/01/10	55.3		4.7
Cuff Bk.	5202	Cheshire	Hickory Lane to dam	41.5404	-72.9464	6176	21546	07/28/10	35.1		4.9
SPRING LOT Bk.	5102	Westbrook	Off McVeagh Rd US access Rd for town dump	41.3019	-72.4569	5623	21477	07/27/10	8.1	14.3	5.2
WEWAKA Bk.	6000	Bridgewater	2nd Wewaka Bk. Road crossing up from route 133 just above Beach Hill Road	41.5010	-73.3497	6129	20659	06/21/10	47.2	63.9	5.5

Chidsey Bk.	4316-01	Avon	Avon Water company Well #3 (above Avon HS)	41.7848	-72.8624	2001	20492	06/11/10	52.5	44.6	5.6
Chestnut Hill Bk.	3801-02	Windham	on Joshua Trust Property	41.7100	-72.1424	6170	21312	07/20/10	36.7	33.5	5.8
Red Bk.	2105	Groton	US of wells rd	41.3908	-71.9730	5561	21465	07/26/10	5.3	17.0	6.3
Bone Mill Bk.	3100	Tolland	end of drivable road above sweet heart lake	41.9250	-72.3162	1456	21322	07/21/10	59.3	64.4	6.4
Billings Avery Bk.	3000	Ledyard	Route 12 Crossing	41.4589	-72.0643	6143	21191	07/06/10	15.1	17.2	6.6
Mallory Bk.	4305	Barkhamsted	Route 44 Crossing near mouth	41.9113	-73.0263	1713	20593	06/16/10	46.6	58.0	6.7
Cranberry Meadow Bk.	2202	East Lyme	50 M DS of rte 161	41.4081	-72.2289	5153	21310	07/16/10	68.6	60.7	6.7
Pease Bk.	3905	Lebanon	Mack Road	41.6418	-72.2349	6163	21440	07/22/10	47.0	53.4	6.9
Dowd Hollow Bk.	5108	Madison	Route 80	41.3508	-72.6611	2689	20362	06/04/10	52.6	54.1	6.9
Beebe Bk.		Sharon	Westwood road #1	41.8406	-73.4807	6125	20632	06/17/10	37.9	48.6	7.0
Stony Bk.	2204-03-1	Waterford	Gurley Road	41.3691	-72.1730	5845	21307	07/16/10	68.3	53.4	7.2
Stony Bk.	2204	Waterford	Waterford parkway north of I95	41.3710	-72.1733	6165	21308	07/16/10	52.7	46.4	7.2
Beaver Bk.	6900-40	Ansonia	at mouth	41.3351	-73.0766	2678	20875	06/29/10	40.6	43.1	7.3
Mott Hill Bk.	4008-03	Glastonbury	at Private Drive for houses # 107-109	41.6615	-72.5365	2295	20315	06/02/10	59.3	59.5	7.3
Nod Bk.	4317	Simsbury	Mountain Road Crossing	41.8286	-72.8667	2682	20494	06/11/10	51.9	44.8	7.7
Hemlock Valley Bk.	4016-11	East Haddam	Bone Mill Road	41.4283	-72.4226	2297	21234	07/15/10	27.7	32.5	7.7
Spruce Bk.	6906	Litchfield	confluence with Jefferson Hill Bk.	41.7481	-73.1194	972	20876	06/29/10	38.7	60.9	8.0
Sherman Bk.	3903	Colchester	Harbor Road	41.5792	-72.3000	6147	20314*	06/02/10	37.7		8.2
Bunnell Bk.	4311-00-2-R2	Burlington	at recreation area at vineyard rd and clear Bk. rd	41.7807	-72.9630	2711	20497	06/14/10	50.0	46.9	8.3
Old Stone Mill Bk.	3805	Lisbon	US of potash hill rd	41.6200	-72.0383	5492	21443	07/23/10	41.0	62.8	8.6
Beaver Bk.	4308	Barkhamsted	at Charles Pack trail crossing	41.9379	-72.9888	2656	20316	06/03/10	37.5	46.4	8.8
Honeypot Bk.	5200	Cheshire	Blacks Road	41.5396	-72.8789	1107	21548	07/28/10	45.6	51.0	8.8

WEWAKA Bk.	6000	Bridgewater	Parallel to Rte 133 1.4 miles DS Wewaka Rd	41.4878	-73.3508	5748	20658	06/21/10	58.8		8.9
Hunts Bk.	3006	Montville	Fire Road	41.4293	-72.1720	2640	21193	07/07/10	56.2	54.1	9.0
Jordan Bk.	2201	Waterford	600 m DS rte 95 parallel to dirt road along abandoned airport	41.3672	-72.1508	5346	21473	07/27/10	64.3	78.4	9.1
Jordan Bk.	2201-00	Waterford	Waterford parkway North	41.3686	-72.1509	5929	21472	07/27/10	67.5	75.2	9.1
Sages Ravine Bk.	6001	Salisbury	Route 41	42.0497	-73.4245	1440	20631	06/17/10	46.7	60.7	9.2
Thompson Bk.	4316	Avon	Bike Path Crossing (Old RR grade)	41.7681	-72.8497	1916	20495	06/11/10	50.6	58.4	10.0
Green Fall R.	1002	North Stonington	#225 Denison Hill Road (Tillinghouse Residence)	41.4816	-71.8159	2634	21127	07/09/10	55.0	60.6	10.3
Fenger Bk.	2000	New London	route 213 and 3 foot stone dam	41.3219	-72.1054	609	21561	07/29/10	12.9	14.3	10.3
Naromiyocknowhus unkatankshunk Bk. (FKA Morrissey)	6017	Sherman	in Brookland Preserve at end of Crooked Furrows Lane	41.5996	-73.4900	2671	20657	06/21/10	44.3	57.0	10.3
Hall Meadow Bk.	6901	Norfolk	across from South Norfolk lumber company	41.9173	-73.1949	2394	20439	06/10/10	50.4	73.9	10.9
Meetinghouse Bk.	5200	Wallingford	100 meters US confluence w/Quinnipiac R.	41.4913	-72.8160	1035	21547	07/28/10	39.4	31.9	11.1
Susquetonscut Bk.	3907	Lebanon	Chappell Road	41.6540	-72.2196	6164	21441	07/22/10	35.9	52.5	11.1
Sherman Bk.	3903	Colchester	Norwich Ave.	41.5753	-72.2847	623	20313*	06/02/10	48.6		11.3
Branch Bk.	3203-10	Eastford	at mouth	41.9108	-72.1245	2291	20255	06/01/10	40.1	59.2	12.7
Branch Bk.	3203	Eastford	Kozy Corner Road upstream of mouth 3/4 mile	41.9199	-72.1256	2532	20256	06/01/10	56.9	68.9	12.7
Oxoboxo Bk.	3004	Montville	Meeting House Lane	41.4673	-72.1570	610	21194	07/07/10	50.3	69.4	13.2
Copps Bk.	2102	Stonington	Route 234 crossing	41.3824	-71.9278	1700	21463	07/26/10	17.0	34.4	13.2
Susquetonscut Bk.	3907	Lebanon	US of rte 207	41.6439	-72.2042	5657	21444	07/23/10	23.5	33.8	13.4
Oil Mill Bk.	2203	Waterford	50 M US I95 at intersection of 95 north and oil mill rd	41.3756	-72.1900	5490	21309	07/16/10	52.3	47.8	13.5
PENDLETON HILL Bk.	1001-02	North Stonington	PENDLETON HILL BK. NEAR CLARKS FALLS	41.4748	-71.8342	1748	20929	06/30/10	28.5	44.4	13.6

Hewitt Bk. (Poquetanuck Bk.)	3003	Preston	Schoolhouse Rd.	41.4981	-72.0365	619	21187	07/06/10	14.2	24.1	14.1
Beaver Bk.	4308-15-2-R2	Barkhamsted	downstream of crossing	41.9321	-72.9754	2726	20317	06/03/10	51.4	71.6	14.2
Trading Cove Bk.	3001	Norwich	adjacent to Route 82 and Leffingwell Road	41.5046	-72.1380	2249	21442	07/23/10	49.1	69.5	14.2
Brown Bk.	6201	Canaan	Route 63	41.9267	-73.2799	2342	20630	06/17/10	42.8	67.1	14.4
fourmile river	2207	East Lyme	route 95 culvert	41.3235	-72.2581	6166	21475	07/27/10	23.1	19.8	14.7
Pond Meadow Bk.	5105-01_01	Killingworth	at hiking trail crossing	41.3777	-72.5946	1853	20365	06/04/10	44.5	25.7	15.0
Steele Bk.	6912	Watertown	Route 6 (Culter Street)	41.6105	-73.1153	697	22345	09/10/10	34.2	26.6	15.2
fourmile river	2207	East Lyme	US Colton road DS rte95	41.3208	-72.2575	2637	21474	07/27/10	19.8	18.3	15.7
Haleys Bk.	2105	Groton	Packer Road in gorge area	41.3871	-71.9768	6185	21467	07/26/10		41.1	15.8
Myron Kinney Bk.	3604	Voluntown	Myron Kinney Road	41.5533	-71.8619	475	21300	07/16/10	49.5	62.8	15.8
Copps Bk.	2102	Stonington	off Cove Road, Just above Quiambog Cove	41.3571	-71.9363	39	21464	07/26/10	16.5	14.3	15.8
Nod Bk.	4317	Avon	Route 10	41.8158	-72.8294	1243	20493	06/11/10	38.7	64.2	15.9
Pease Bk.	3905	Lebanon	Goshen Hill road and Smith Road intersection	41.6231	-72.2205	6162	21439	07/22/10	35.5	46.8	16.3
Stonehouse Bk.	3204	Chaplin	downstream Palmer Road	41.7812	-72.1509	2331	21313	07/20/10	46.2	79.2	16.4
Chatfield Hollow Bk.	5105	Killingworth	covered bridge in state park	41.3742	-72.5930	1998	20363*	06/04/10	30.3		16.6
Means Bk.	6024	Shelton	DS Sawmill City Rd.	41.3191	-73.1618	1012	21612	07/30/10	35.0	31.5	19.8
Beaver Bk.	4803	Lyme	bridge at 55-123 Beaver Bk. Road	41.4100	-72.3289	1236	21233	07/15/10	27.0	57.0	21.6
Sasco Bk.	7109	Westport	Hulls Farm Road	41.1528	-73.3060	554	21613	07/30/10	40.0	35.2	21.7
Green Fall R.	1002	North Stonington	confluence with Wyassup Bk US Clarks Fall Rd.	41.4568	-71.8169	606	20928	06/30/10	70.9	72.4	27.0
Marshepaug R.	6701	Litchfield	Shearshop Road at Litchfield/Goshen Town Line	41.7794	-73.2663	2240	20924	06/25/10	49.8	48.4	29.5
Latimer Bk.	2202	East Lyme	Chapman Drive	41.4107	-72.2217	614	21192	07/07/10	17.4	16.0	30.2
Broad Bk.	3716	Preston	Route 164	41.5538	-71.9703	1841	21302	07/16/10	44.5	65.2	30.5
Hall Meadow Bk.	6901	Torrington	park access road bridge	41.8861	-73.1689	2311	20438	06/10/10	55.9	69.6	31.0
Oxoboxo Bk.	3004	Montville	at Faria Company (pink	41.4366	-72.1062	620	21189	07/06/10	46.9	64.2	31.3

row road)											
Gardner Bk.	3906	Bozrah	Bear Hill Road near Bishop Road intersection	41.5433	-72.1734	625	21185	07/01/10	43.2	43.9	32.0
Hunts Bk.	3006	Waterford	US Old Norwich Rd	41.4001	-72.1153	1194	21188	07/06/10	40.7	23.4	33.9
Bartlett Bk.	3902	Lebanon	Taylor bridge road	41.5883	-72.2563	6161	21438	07/22/10	50.1	50.5	34.6
Cherry Bk.	4309	Canton	Route 44	41.8365	-72.9295	1513	20496	06/14/10	58.2	65.0	35.8
Furnace Bk.	3103	Stafford	Orcuttville Road	41.9841	-72.2947	89	21321	07/21/10	57.5	71.8	38.7
Broad Bk.	3716	Preston	Old Jewitt City Road	41.5632	-71.9834	479	21301	07/16/10	51.8	68.2	39.2
Susquetonscut Bk.	3907	Franklin	route 32 upstream of route 87	41.5724	-72.1324	626	21186	07/01/10	57.7	54.4	39.8
Pequabuck R.	4315	Bristol	just upstream small Trib upstream of Barlow and Old Terryville Rd	41.6708	-72.9774	2660	20498	06/14/10	37.3	39.1	41.9
East Branch Eightmile R.	4802	Lyme	Mouth downstream Route 156	41.4309	-72.3375	49	21232	07/15/10	37.2	53.1	42.4
Steele Bk.	6912	Waterbury	East Aurora Street	41.5711	-73.0594	329	22346	09/10/10	44.8	34.3	44.1
Steele Bk.	6912	Waterbury	North Parking Lot for Municipal stadium	41.5805	-73.0703	331	22347	09/10/10	56.6	41.8	44.1
Eightmile R.	6023	Oxford	Route 34	41.3842	-73.1642	1947	20874	06/29/10		32.8	45.2
West Branch Salmon Bk.	4319	Granby	Barndoor Road	41.9372	-72.8215	359	20594	06/16/10		69.2	61.6
Ashaway R.	1002	North Stonington	State line on route 184	41.4433	-71.7963	650	21303	7/16/2010		58.5	65.1
Norwalk R.	7300	Norwalk	Perry Avenue	41.1359	-73.4260	236	20769	06/23/10		40.9	71.5
Norwalk R.	7300	Wilton	at ASML litographics company	41.1703	-73.4172	2687	20768	6/23/2010		35.5	75.5
West Branch Naugatuck R.	6904	Torrington	Route 4	41.8181	-73.1441	357	20925	06/25/10		61.9	80.5
Mad R.	4302	Winchester	Mouth and Old Route 8 crossing	41.9199	-73.0597	158	20384	6/9/2010		61.9	82.2
Saugatuck R.	7200	Weston	Keene Park Parking Lot	41.1927	-73.3617	1294	22209	8/27/2010		60.6	95.1
Yantic R.	3900	Bozrah	Stanton Road	41.5766	-72.1918	621	21183	07/01/10		64.0	101.5
Eightmile R.	4800	Lyme	Confluence with East branch Eightmile R. (rte 156)	41.4300	-72.3392	930	21231	07/15/10		52.6	111.9

Still R.	4303	Winchester	VFW lodge on Route 8 (site 39) upstream industrial building	41.9503	-73.0490	599	20385	06/09/10	62.9	113.9
Sandy Bk.	4304	Colebrook	Grange Hall off R.ton Road	41.9740	-73.0406	317	20386	06/09/10	72.4	120.7
Willimantic R.	3100	Willington	Stafford POTW	41.9423	-72.3058	458	21320	07/21/10	73.3	139.4
Pomperaug R.	6800	Woodbury	Judson Avenue	41.5491	-73.2165	278	20873	06/29/10	57.7	147.2
Quinnipiac R.	5200	Meriden	Meriden landfill and St. Laurent's Cemetery	41.5114	-72.8233	6128	22112	08/27/10	28.9	215.3
Yantic R.	3900	Norwich	West Town Street adjacent to Connecticut Avenue	41.5583	-72.1120	622	21184	07/01/10	53.5	236.3
Sandy Bk.	4304	Barkhamsted	Route 20	41.9600	-73.0200	1796	20387	06/09/10	61.7	271.0
Quinnipiac R.	5200	Wallingford	Route 15 USGS gauge	41.4501	-72.8407	289	22114	08/27/10	21.0	287.4
Quinnipiac R.	5200	Wallingford	at Quinnipiac R. Canoe trail access	41.3981	-72.8681	2396	22113	08/27/10	10.3	324.5
Quinebaug R.	3700	Thompson	Route 197	42.0220	-71.9528	285	20654	6/18/2010	73.5	669.0
Quinebaug R.	3700	Thompson	Route 197	42.0220	-71.9528	285	21198	7/14/2010	75.6	669.0
West Branch Farmington R.	4300	New Hartford	at Upcountry Sports	41.8732	-72.9648	1746	20369	06/07/10	64.6	914.8
West Branch Farmington R.	4300	New Hartford	at Upcountry Sports	41.8732	-72.9648	1746	21306	07/19/10	70.4	914.8
Quinebaug R.	3700-00-3+R2	Putnam	confluence with Little R. and Rte 101 dam	41.9129	-71.9121	5909	20655	06/18/10	46.3	1050.3
Quinebaug R.	3700-00-3+R2	Putnam	confluence with Little R. and Rte 101 dam	41.9129	-71.9121	5909	21197	07/13/10	54.3	1050.3
FARMINGTON RIVER	4300	Canton	Steele bridge on Town Bridge Road	41.8257	-72.9295	741	21305	07/19/10	33.4	1233.3
FARMINGTON RIVER	4300	Canton	Steele bridge on Town Bridge Road	41.8257	-72.9295	741	20368	06/07/10	50.1	1233.3
FARMINGTON RIVER	4300	Farmington	Route 4 at Apricots Restaurant	41.7508	-72.8717	72	20367	6/7/2010	54.3	1362.2
FARMINGTON RIVER	4300	Farmington	Route 4 at Apricots Restaurant	41.7508	-72.8717	72	21304	7/19/2010	57.9	1362.2
Quinebaug R.	3700	Killingly	Edwardson Street	41.7809	-71.9010	2645	21196	07/13/10	40.8	1482.0

Quinebaug R.	3700	Griswold	Route 12 and upstream Patchaug R. Confluence	41.6022	-71.9868	476	21195	7/13/2010	29.2	1920.4
Quinebaug R.	3700	Griswold	Route 12 and upstream Patchaug R. Confluence	41.6022	-71.9868	476	20383	6/8/2010	34.4	1920.4



Appendix A: List of all 137 fish community samples and 133 locations collected during the 2010 index period.

stream-WPLR ID	location	basin	town	ylat	xlong	date	WPLR ID	Fisheries ID	gear	sample width (m)	sample length (m)	run time (sec)
Ashaway R.-650	at-State line on route 184	1002	North Stonington	41.4432889	-71.7962639	6/30/2010	20926	22045	qualitative sample			
Ashaway R.-650	at-State line on route 184	1002	North Stonington	41.4432889	-71.7962639	7/16/2010	21303	22079	stream shocker	15	80	800
Ballymahack Bk.-5043	-US of old diversion dam at manfrede property	3801	Windham	41.71252	-72.14257	7/20/2010	21311	22637	pod	6	148	786
Bartlett Bk.-6161	upstream-Taylor bridge road	3902	Lebanon	41.5883	-72.25627	7/22/2010	21438	22092	2 backpacks	13	129	2729
Beaver Bk.-1236	Downstream-bridge at 55-123 Beaver Bk. Road	4803	Lyme	41.4100472	-72.3289389	7/15/2010	21233	22074	2 backpacks	8	102	924
Beaver Bk.-2656	-at Charles Pack trail crossing	4308	Barkhamsted	41.9379	-72.9888	6/3/2010	20316	22612	pod	8	100	873
Beaver Bk.-2678	-at mouth	6900-40	Ansonia	41.335074	-73.0765978	6/29/2010	20875	22243	1 backpack	3	131	734
Beaver Bk.-2726	adjacent to park road-downstream of crossing	4308-15-2-R2	Barkhamsted	41.93205	-72.97536	6/3/2010	20317	22613	pod	6	100	831
Beebe Bk.-6125	at-Westwood road #1		Sharon	41.84055	-73.48073	6/17/2010	20632	22630	pod	5	100	819
Billings Avery Bk.-6143	US-Route 12 Crossing	3000	Ledyard	41.45891	-72.06433	7/6/2010	21191	22056	1 backpack	4	100	505
Bone Mill Bk.-1456	upstream-end of drivable road above sweet heart lake	3100	Tolland	41.9249917	-72.3162444	7/21/2010	21322	22091	1 backpack	4	150	814
Branch Bk.-2291	Upstream Westford Road-at mouth	3203-10	Eastford	41.9108075	-72.1245045	6/1/2010	20255	22605	pod	8	125	704

Branch Bk.-2532	adjacent-Kozy Corner Road upstream of mouth 3/4 mile	3203	Eastford	41.9199	-72.1256	6/1/2010	20256	22606	pod	9	107	751
Bride Bk.-6173	at-unknown to be determined	2206	East Lyme	41.32219	-72.24229	7/29/2010	21554	22645	pod	10	50	646
Bride Bk.-670	upstream-Route 95 crossing	2206	East Lyme	41.3360306	-72.2419306	7/29/2010	21557	22646	pod	3	75	1161
Broad Bk.-1841	at-Route 164	3716	Preston	41.5538482	-71.9703061	7/16/2010	21302	22076	2 backpacks	8	100	2528
Broad Bk.-479	downstream-Old Jewitt City Road	3716	Preston	41.5631694	-71.9833583	7/16/2010	21301	22077	2 backpacks	11	125	2612
Brown Bk.-2342	at-Route 63	6201	Canaan	41.9267	-73.2799	6/17/2010	20630	22628	pod	8	150	1701
Bunnell Bk.-2711	upstream diversion for swimming area-at recreation area at vineyard rd and clear Bk. rd	4311-00- 2-R2	Burlington	41.78067	-72.963	6/14/2010	20497	22213	2 backpacks	9	165	3338
Cabin Bk.-5911	upstream-Fedus Road	4703	Colchester	41.5605	-72.31667	6/2/2010	20312	22607	pod	3	108	759
Cabin Bk.-6137	1000 meters-upstream of Cabin Road enter from Kennedy Drive trail	4703	Colchester	41.56029	-72.33087	6/2/2010	20311	22608	pod	6	110	637
Chatfield Hollow Bk., tributary to-5473	-5 M US Papermill Rd	5000	Madison	41.28917	-72.59278	6/4/2010	20364	22618	pod	2	50	299
Chatfield Hollow Bk.- 1998	at-covered bridge in state park	5105	Killingworth	41.3742154	-72.5930249	6/4/2010	20363	22617	pod	14	150	1099
Cherry Bk.-1513	upstream-Route 44	4309	Canton	41.8365028	-72.9294944	6/14/2010	20496	22214	2 backpacks	16	125	2636
Chestnut Hill Bk.-6170	upstream of Lake Marie-on Joshua Trust Property	3801-02	Windham	41.710002	-72.14237	7/20/2010	21312	22638	pod	2	110	660
Chidsey Bk.-2001	adjacent-Avon Water company Well #3 (above Avon HS)	4316-01	Avon	41.7847744	-72.8624329	6/11/2010	20492		pod	2	100	608

Copps Bk.-1700	At-Route 234 crossing	2102	Stonington	41.38243	-71.92784	7/26/2010	21463	22101	2 backpacks	5	112	1856
Copps Bk.-39	upstream of first driveway-off Cove Road, Just above Quiambog Cove	2102	Stonington	41.3570972	-71.9362611	7/26/2010	21464	22102	1 backpack	3	75	780
Cranberry Meadow Bk.-5153	-50 M DS of rte 161	2202	East Lyme	41.40805	-72.22889	7/16/2010	21310	22639	pod	4	94	1080
Cuff Bk.-5910	0.1 miles downstream-Route 84 Crossing	5202	Cheshire	41.54088	-72.94848	7/28/2010	21545	22642	pod	2	15	75
Cuff Bk.-6176	upstream-Hickory Lane to dam	5202	Cheshire	41.5404	-72.94642	7/28/2010	21546	22641	pod	2	90	590
Denison Bk.-5168	-US of Fish rd which intersects with 49 across from Hodge rd	3603	Voluntown	41.54861	-71.84222	6/30/2010	20930	22049	1 backpack	4	112	1500
Dowd Hollow Bk.-2689	upstream-Route 80	5108	Madison	41.3508	-72.6611	6/4/2010	20362		pod	7	108	1099
Eagleville Bk.-1225	Upstream side-#43 Hunting Lodge Road (private driveway)	3100-19	Mansfield	41.806675	-72.2645917	6/1/2010	20251	22601	pod	4	120	480
Eagleville Bk.-1226	upstream-Separatist Road	3100-19	Mansfield	41.8040139	-72.2660444	6/1/2010	20252	22602	pod	5	100	344
Eagleville Bk.-1228	Upstream-NNT to Eagleville Bk. Adj. To N. Eagleville Road	3100-19	Mansfield	41.7938194	-72.2752278	6/1/2010	20254	22604	pod	8	100	437
Eagleville Bk.-1230	Downstream-NNT to Eagleville Bk. Adj. To N. Eagleville Road	3100-19	Mansfield	41.7931833	-72.2755639	6/1/2010	20253	22603	pod	8	100	616
Eagleville Bk.-1697	north side-N Eagleville Rd adjacent F-lot	3100-19	Mansfield	41.8088848	-72.2633192	6/1/2010	20250	22600	pod	2	120	503
East Branch Eightmile R.-49	100 meters upstream-Mouth downstream Route 156	4802	Lyme	41.4308667	-72.3375278	7/15/2010	21232	22073	2 backpacks	12	125	1792

East Branch Salmon Bk.-	at-Route 20		Granby									
Eightmile R.-1947	at-Route 34	6023	Oxford	41.3842462	-73.1641631	6/29/2010	20874	22242	2 backpacks	8	158	3681
Eightmile R.-930	150 meters downstream- Confluence with East branch Eightmile R. (rte 156)	4800	Lyme	41.4300333	-72.3392028	7/15/2010	21231	22072	2 backpacks	18	87	1332
FARMINGTON RIVER-72	adjacent-Route 4 at Apricots Restaurant	4300	Farmington	41.7507667	-72.8716639	6/7/2010	20367	22621	pod	5	300	1534
FARMINGTON RIVER-72	adjacent-Route 4 at Apricots Restaurant	4300	Farmington	41.7507667	-72.8716639	7/19/2010	21304	22082	2 stream shockers	35	175	2520
FARMINGTON RIVER-741	100 meters upstream-Steele bridge on Town Bridge Road	4300	Canton	41.8256889	-72.9294833	6/7/2010	20368	22622	pod	5	300	1602
FARMINGTON RIVER-741	100 meters upstream-Steele bridge on Town Bridge Road	4300	Canton	41.8256889	-72.9294833	7/19/2010	21305	22083	2 stream shockers	35	200	3120
Fenger Bk.-609	between-route 213 and 3 foot stone dam	2000	New London	41.3219194	-72.1054389	7/29/2010	21561	22647	pod	3	25	446
Fenger Bk.-669	downstream 100 meters-Route 1	2000	Waterford	41.3403667	-72.1217611	7/29/2010	21562	22648	pod	4	100	721
fourmile river-2637	-US Colton road DS rte95	2207	east Lyme	41.3208	-72.2575	7/27/2010	21474	22108	2 backpacks	6	153	1884
Fourmile river-6166	upstream-route 95 culvert	2207	East Lyme	41.32347	-72.2581	7/27/2010	21475	22109	2 backpacks	5	85	1238
Furnace Bk.-89	upstream-Orcuttville Road	3103	Stafford	41.9840833	-72.2947333	7/21/2010	21321	22090	2 backpacks	10	150	1924
Gardner Bk.-625	downstream-Bear Hill Road near Bishop Road intersection	3906	Bozrah	41.5432917	-72.1734472	7/1/2010	21185	22052	2 backpacks	12	176	2096

Green Fall R.-2634	behind-#225 Denison Hill Road (Tillinghouse Residence)	1002	North Stonington	41.4815596	-71.8158915	7/9/2010	21127	22636	pod	3	150	1451
Green Fall R.-606	upstream-confluence with Wyassup Bk US Clarks Fall Rd.	1002	North Stonington	41.4567667	-71.8169444	6/30/2010	20928	22046	1 backpack	3	110	1217
Haleys Bk.-6185	DS-Packer Road in gorge area	2105	Groton	41.38712	-71.97682	7/26/2010	21467	22105	1 backpack	6	120	689
Hall Meadow Bk.- 2311	at-park access road bridge	6901	Torrington	41.8861128	-73.168905	6/10/2010	20438	22208	1 backpack	13	150	1074
Hall Meadow Bk.- 2394	adjacent to Rte 272-across from South Norfolk lumber company	6901	Norfolk	41.9173	-73.1949	6/10/2010	20439	22209	1 backpack	8	100	1659
Heft Bk.-5934	Downstream-Parker Hill Road	5103-01- 1-L1	Killingworth	41.40224	-72.54397	6/4/2010	20366	22620	pod	4	110	932
Hemlock Valley Bk.- 2297	at-Bone Mill Road	4016-11	East Haddam	41.4283457	-72.4226104	7/15/2010	21234	22075	1 backpack	4	75	800
Hewitt Bk. (Poquetanuck Bk.)-619	upstream-Schoolhouse Rd.	3003	Preston	41.4980611	-72.0365278	7/6/2010	21187	22055	2 backpacks	14	105	1704
Honeypot Bk.-1107	downstream-Blacks Road	5200	Cheshire	41.5396111	-72.878875	7/28/2010	21548	22643	pod	4	100	757
Hunts Bk.-1194	-US Old Norwich Rd	3006	Waterford	41.4001333	-72.1152861	7/6/2010	21188	22057	2 backpacks	11	100	3843
hunts Bk.-2640	-Fire Road	3006	Montville	41.4293	-72.172	7/7/2010	21193	22060	1 backpack	3	106	890
Jordan Bk.-5346		2201	Waterford	41.36723	-72.150778	7/27/2010	21473	22106	1 backpack	3	101	1372
Jordan Bk.-5929	US-Waterford parkway North	2201-00	Waterford	41.368563	-72.15092	7/27/2010	21472	22107	1 backpack	3	50	559
Kahn Bk.-138	upstream-Schwartz Road	3900	Bozrah	41.5681194	-72.1701778	7/1/2010	21182	22053	1 backpack	3	42	325
Latimer Bk.-614	upstream-Chapman Drive	2202	East Lyme	41.4107028	-72.2217167	7/7/2010	21192	22059	2 backpacks	10	152	2047

Mad R.-158	between-Mouth and Old Route 8 crossing	4302	Winchester	41.9199194	-73.0597083	6/9/2010	20384	22204	stream shocker	9	150	1200
Mallory Bk.-1713	downstream-Route 44 Crossing near mouth	4305	Barkhamsted	41.9113464	-73.0262999	6/16/2010	20593	22217	2 backpacks	5	150	4423
Mallory Bk.-717	above-gas pipeline	4305	Barkhamsted	41.9063444	-73.0473778	6/3/2010	20318	22614	pod	3	100	469
Marshepaug R.-2240	adjacent to -Shearshop Road at Litchfield/Goshen Town Line	6701	Litchfield	41.7793765	-73.2662605	6/25/2010	20924	22238	stream shocker	12	160	2520
Means Bk.-1012	-DS Sawmill City Rd.	6024	Shelton	41.3191306	-73.161825	7/30/2010	21612	22649	pod	6	119	1296
Meetinghouse Bk.-1035	-100 meters US confluence w/Quinnipiac R.	5200	Wallingford	41.4912556	-72.8159722	7/28/2010	21547	22644		6	80	690
Mott Hill Bk.-2295	off Hunt Ridge Drive-at Private Drive for houses # 107-109	4008-03	Glastonbury	41.661516	-72.5364877	6/2/2010	20315	22611	pod	11	100	1087
Myron Kinney Bk.-475	adjacent-Myron Kinney Road	3604	Voluntown	41.5532556	-71.8619167	7/16/2010	21300	22078	2 backpacks	10	87	3240
Naromiyocknowhusun katankshunk Bk. (FKA Morrissey)-2671	at footbridge-in Brookland Preserve at end of Crooked Furrows Lane	6017	Sherman	41.5996165	-73.4900395	6/21/2010	20657	22633	pod	4	150	2000
Nod Bk.-1243	DS-Route 10	4317	Avon	41.8158444	-72.8294111	6/11/2010	20493	22626	pod	12	125	1397
Nod Bk.-2682	at-Mountain Road Crossing	4317	Simsbury	41.8285756	-72.8666675	6/11/2010	20494	22625	pod	3	100	708
Norfolk Bk.-6126	at-Yale School Music DS Mountain Road	6100-03	Norfolk	41.98729	-73.20155	6/10/2010	20440	22210	1 backpack	3	100	1312
Norwalk R.-236	upstream-Perry Avenue	7300	Norwalk	41.1358722	-73.4260111	6/23/2010	20769	22234	stream shocker	22	150	1200
Norwalk R.-2687	at # 77 Norwalk Road (Route 7)-at ASML lithographics company	7300	Wilton	41.1703	-73.4172	6/23/2010	20768	22233	stream shocker	16	137	1500

Oil Mill Bk.-5490	-50 M US I95 at intersection of 95 north and oil mill rd	2203	Waterford	41.37556	-72.19	7/16/2010	21309	22637	pod	6	137	1338
Old Stone Mill Bk.-5492	-US of potash hill rd	3805	Lisbon	41.62	-72.03833	7/23/2010	21443			4	132	845
Oxoboxo Bk.-610	upstream 100 meters-Meeting House Lane	3004	Montville	41.4673417	-72.1569972	7/7/2010	21194	22061	1 backpack	10	106	399
Oxoboxo Bk.-620	upstream crossing-at Faria Company (pink row road)	3004	Montville	41.4365944	-72.1061528	7/6/2010	21189	22058	2 backpacks	8	152	1501
Pease Bk.-6162	upstream-Goshen Hill road and Smith Road intersection	3905	Lebanon	41.62311	-72.22048	7/22/2010	21439	22093	1 backpack	5	64	884
Pease Bk.-6163	upstream-Mack Road	3905	Lebanon	41.64181	-72.23485	7/22/2010	21440	22094	1 backpack	2	95	1431
PENDLETON HILL BK.-1748	Upstream Grindstone Hill Road-PENDLETON HILL BK. NEAR CLARKS FALLS	1001-02	North Stonington	41.4748213	-71.8342374	6/30/2010	20929	22048	2 backpacks	5	158	2093
Pequabuck R.-2660	-just upstream small Trib upstream of Barlow and Old Terryville Rd	4315	Bristol	41.6707588	-72.9774468	6/14/2010	20498			16	175	3481
Pomperaug R.-278	upstream-Judson Avenue	6800	Woodbury	41.5490836	-73.2165023	6/29/2010	20873	22241	stream shocker	16	100	1200
Pond Meadow Bk.-1853	upstream confluence with Chatfield Hollow Bk.-at hiking trail crossing	5105-01_01	Killingworth	41.3776806	-72.5945556	6/4/2010	20365	22619	pod	8	80	490
Quinebaug R.-2645	at end of-Edwardson Street	3700	Killingly	41.7809	-71.901	7/13/2010	21196	22069	2 stream shockers	47	175	4200
Quinebaug R.-285	upstream-Route 197	3700	Thompson	42.0219833	-71.9527833	6/18/2010	20654	22631	pod	5	300	1400
Quinebaug R.-285	upstream-Route 197	3700	Thompson	42.0219833	-71.9527833	7/14/2010	21198	22071	2 stream	30	175	3600

									shockers			
Quinebaug R.-476	downstream-Route 12 and upstream Patchaug R. Confluence	3700	Griswold	41.6021622	-71.9868294	6/8/2010	20383	22624	pod	5	300	1574
Quinebaug R.-476	downstream-Route 12 and upstream Patchaug R. Confluence	3700	Griswold	41.6021622	-71.9868294	7/13/2010	21195	22080	2 stream shockers	58	150	4800
Quinebaug R.-5909	between-confluence with Little R. and Rte 101 dam	3700-00-3+R2	Putnam	41.91287	-71.91208	6/18/2010	20655	22632	pod	5	300	1296
Quinebaug R.-5909	between-confluence with Little R. and Rte 101 dam	3700-00-3+R2	Putnam	41.91287	-71.91208	7/13/2010	21197	22070	2 stream shockers	35	150	4200
Quinnipiac R.-2396	behind rest stop-at Quinnipiac R. Canoe trail access	5200	Wallingford	41.3981	-72.8681	8/30/2010	22113	22177	2 stream shockers	31	160	3240
Quinnipiac R.-289	adjacent-Route 15 USGS gauge	5200	Wallingford	41.4500806	-72.8407417	8/30/2010	22114	22178	2 stream shockers	21	285	3600
Quinnipiac R.-6128	between-Meriden landfill and St. Laurent's Cemetery	5200	Meriden	41.51137	-72.82328	8/30/2010	22112	22176	2 stream shockers	24	125	1800
Red Bk.-5561	-US of wells rd	2105	Groton	41.39083	-71.97305	7/26/2010	21465	22104	1 backpack	4	53	441
Sages Ravine Bk.-1440	downstream-Route 41	6001	Salisbury	42.0497056	-73.4245306	6/17/2010	20631	22629	pod	4	150	1590
Sandy Bk.-1796	upstream-Route 20	4304	Barkhamsted	41.960024	-73.0199908	6/9/2010	20387	22207	stream shocker	22	150	2400
Sandy Bk.-317	opposite-Grange Hall off R. ton Road	4304	Colebrook	41.9740278	-73.0406389	6/9/2010	20386	22205	stream shocker	15	150	1200
Sasco Bk.-554	Downstream-Hulls Farm Road	7109	Westport	41.1527861	-73.3059861	7/30/2010	21613	22650	pod	8	93	1282

Saugatuck R.-1294	at-Keene Park Parking Lot	7200	Weston	41.1926667	-73.3617	8/27/2010	22209	22174	1 stream shocker	18	100	1500
Sherman Bk.-6147	at-Harbor Road	3903	Colchester	41.5791967	-72.2999707	6/2/2010	20314	22610	pod	4	100	554
Sherman Bk.-623	upstream-Norwich Ave.	3903	Colchester	41.5752639	-72.2847	6/2/2010	20313	22609	pod	12	25	260
SPRING LOT BK.-5623	-Off McVeagh Rd US access Rd for town dump	5102	Westbrook.	41.30194	-72.45695	7/27/2010	21477	22111	1 backpack	5	100	440
Spring Lot Bk.-5940	US-Westbrook. HS athletic field access road off McVeagh Road	5102-02	Westbrook.	41.30109	-72.45172	7/27/2010	21476	22110	1 backpack	3	100	502
Spruce Bk.-972	upstream-confluence with Jefferson Hill Bk.	6906	Litchfield	41.7480722	-73.1193972	6/29/2010	20876	22244	2 backpacks	9	152	1896
Steele Bk.-2407	at-West Road	6912	Watertown	41.6175	-73.131	9/10/2010	22344	22359	1 backpack	2	87	734
Steele Bk.-329	downstream-East Aurora Street	6912	Waterbury	41.5711222	-73.0593917	9/10/2010	22346	22361	2 backpacks	12	130	2678
Steele Bk.-331	parallel-North Parking Lot for Municipal stadium	6912	Waterbury	41.5805111	-73.0702861	9/10/2010	22347	22362	2 backpacks	12	165	3035
Steele Bk.-697	upstream-Route 6 (Culter Street)	6912	Watertown	41.610461	-73.1153045	9/10/2010	22345	22360	2 backpacks	7	155	2250
Still R.-599	300 meters downstream-VFW lodge on Route 8 (site 39) upstream industrial building	4303	Winchester	41.9503083	-73.0489917	6/9/2010	20385	22206	stream shocker	15	150	1500
Stonehouse Bk.-2331	off old trail -downstream Palmer Road	3204	Chaplin	41.7812	-72.1509	7/20/2010	21313	22639	pod	8	150	1338
Stony Bk.-5845	ds-Gurley Road	2204-03-1	Waterford	41.3691	-72.17304	7/16/2010	21307	22638	pod	1	125	729

Stony Bk.-6165	upstream-Waterford parkway north of I95	2204	Waterford	41.37099	-72.17327	7/16/2010	21308	22639	pod	2	81	760
Stony Bk.-6182	DS-Route 234	2006	Stonington	41.37193	-71.90694	7/26/2010	21466	22103	1 backpack	4	75	660
Susquetonscut Bk.-5657	-US of rte 207	3907	Lebanon	41.64389	-72.20417	7/23/2010	21444	22098	2 backpacks	9	115	2144
Susquetonscut Bk.-6164	upstream-Chappell Road	3907	Lebanon	41.65399	-72.21958	7/22/2010	21441	22095	2 backpacks	7	122	1390
Susquetonscut Bk.-626	adjacent-route 32 upstream of route 87	3907	Franklin	41.5724389	-72.1323806	7/1/2010	21186	22051	2 backpacks	12	150	2488
Thompson Bk.-1916	at-Bike Path Crossing (Old RR grade)	4316	Avon	41.7681406	-72.8496566	6/11/2010	20495	22627	pod	6	85	720
Trading Cove Bk.-2249	at pole # 654 DS Noble Hill Road-adjacent to Route 82 and Leffingwell Road	3001	Norwich	41.5046197	-72.1379918	7/23/2010	21442	22096	1 backpack	4	175	742
West Branch Farmington R.-1746	behind-at Upcountry Sports	4300	New Hartford	41.873191	-72.9648166	6/7/2010	20369	22623	pod	5	300	1344
West Branch Farmington R.-1746	behind-at Upcountry Sports	4300	New Hartford	41.873191	-72.9648166	7/19/2010	21306	22084	2 stream shockers	22	155	1920
West Branch Naugatuck R.-357	downstream-Route 4	6904	Torrington	41.8181361	-73.1440694	6/25/2010	20925	22237	stream shocker	14	118	2700
West Branch Salmon Bk.-359	upstream 50 meters-Barndoor Road	4319	Granby	41.9371694	-72.8214556	6/16/2010	20594	22216	stream shocker	10	150	1320
WEWAKA BK.-5748	-Parallel to Rte 133 1.4 miles DS Wewaka Rd	6000	Bridgewater	41.48778	-73.35083	6/21/2010	20658	22634	pod	5	150	1088
Wewaka Bk.-6129	at-2nd Wewaka Bk. Road crossing up from route 133 just above Beach Hill Road	6000	Bridgewater	41.50103	-73.3497	6/21/2010	20659	22635	pod	3	150	1188
Willimantic R.-458	downstream-Stafford POTW	3100	Willington	41.9422722	-72.3058333	7/21/2010	21320	22089	stream shocker	12	175	1200

Willow Bk.-2666	downstream side-behind # 208 Baldwin Ave	5206	Meriden	41.5425044	-72.7707459	7/28/2010	21544	22640	pod	6	100	1299
Wyassup Bk.-605	at mouth-upstream of Clarks Falls Road	1001	North Stonington	41.4566417	-71.8172028	6/30/2010	20927	22047	bad sample			
Yantic R.-621	upstream-Stanton Road	3900	Bozrah	41.5766	-72.1918306	7/1/2010	21183	22054	stream shocker	19	120	1800
Yantic R.-622	upstream-West Town Street adjacent to Connecticut Avenue	3900	Norwich	41.5583389	-72.1120444	7/1/2010	21184	22050	stream shocker	24	182	1140